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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

GOR NO. 80 (SA-2c)

DATE: 16 March 1955

GENERAL OPERATIONAL REQUIREMENT FOR A STRATEGIC RECONNAISSANCE SATELLITE WEAPON SYSTEM (C ~~SECRET~~)

Revised 26 Sep 1958

I. PURPOSE

This General Operational Requirement is in support of the Strategic Systems Development Planning Objective 1955-1970. It is desired that development action following this requirement result in a satellite weapon system capable of providing continuous reconnaissance of the earth. ~~(SECRET)~~

II. OPERATIONAL OBJECTIVE

The operational objective of this reconnaissance system is continuous surveillance of preselected areas of the earth to determine the status of a potential enemy's warmaking capability. ~~(SECRET)~~

III. ENEMY EFFECTIVENESS ESTIMATES

Pertinent Soviet capabilities will be covered in detail in the GOR Intelligence Summary, when published. Until that time the interim references are Air Intelligence Studies FAIS 2-1, FAIS 2-2 and FAIS 2-3. ~~(CONF)~~

IV. FRIENDLY ENVIRONMENT

A. General

It is desired that the satellite be launched from the continental limits of the United States and monitored from stations within the Western Hemisphere. ~~(SECRET)~~

B. Ground Based Facilities

1. Facilities for launching this system will be fixed, semi-permanent type installations. ~~(SECRET)~~

2. Monitoring sites are required to receive collected data from the satellite. These facilities will be designed and located to minimize enemy interception of or interference with the transfer of collected intelligence information to the ground site. The system will include continuous initial data handling and will process images and electronic intercepts into indications and intelligence at the same rate as received. These facilities must also be equipped to transmit intelligence data pertaining to high priority targets and weather information directly to the using agencies. ~~(SECRET)~~

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3. An intelligence center is required for selecting, analyzing and storing all reconnaissance information received from monitoring stations. ~~(SECRET)~~

V. OPERATIONAL EMPLOYMENT

A. Satellites will be employed singly or in numbers to insure desired coverage of a selected area within a given period of time. ~~(SECRET)~~

B. The satellite will be optimized for daylight visual coverage operations over enemy territory; however, there is a requirement for obtaining this type of information at night and through weather. Additionally, or on an alternate load basis it will have a round the clock electronic intercept capability.

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C. This system will be used to obtain visual data of various scales and therefore the time required for complete coverage of an area will vary. Weather veiling of surveillance areas may prolong this time period. ~~(SECRET)~~

VI. LIMITATIONS OF PRESENT SYSTEMS

Present piloted aircraft reconnaissance systems are limited as follows:

A. Inability to provide continuous surveillance. ~~(CONF)~~

B. Vulnerability to detection. ~~(CONF)~~

C. Vulnerability to countermeasures. ~~(CONF)~~

VII. OPERATIONAL PERFORMANCE (AIRBORNE COMPONENT)

A. General

The following design aspects are of prime importance and must be given special consideration if the final product is to be operationally suitable:

1. Reliability and longevity of all orbiting components.

2. A means of storing intelligence data until the vehicle is within secure communications range of monitoring sites.

3. The capability for alternate payload substitution prior to launching. ~~(SECRET)~~

B. Choice of Orbit and Inclination Angle

1. The altitude and inclination angle of the satellite will depend on the intelligence requirements of the specific mission. ~~(SECRET)~~

2. The inclination angle should be selective through 90 degrees. An angle providing the most adequate daylight coverage of the USSR is desirable. ~~(SECRET)~~

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C. Guidance and Altitude Control

Guidance and altitude control equipment must be designed so that the orbit shape and this vehicle's vertical plane are sufficiently stable to provide acceptable pictorial intelligence. ~~(SECRET)~~

D. Resolution

The necessity for high resolution target portrayal requires that equipment utilized for this purpose be capable of resolving detail to detect airfield runways and intercontinental missile launching sites. An ultimate capability to detect objects no more than 20' on a side is desired. ~~(SECRET)~~

E. Mapping and Charting

Pictorial data collected should be such that creation of accurate topographic maps is possible. ~~(CONF)~~

F. Electronic Intelligence

A capability of automatically detecting, recording and transmitting electromagnetic data of selected frequencies must be provided. Initially, coverage on the UHF, L and S frequency bands will be acceptable. Sufficient data should be transmitted to permit location of source. (Reference VII A.3.) ~~(SECRET)~~

G. Weather Observation

A capability will be incorporated into this system to view cloud coverage on a sufficiently broad basis to aid weather forecasting. (Reference VII A.3.) ~~(CONF)~~

H. Self Destruction

Provisions for self destruction will be incorporated into the satellite. ~~(CONF)~~

VIII. AVAILABILITY

This system should be available to operational units in 1965. ~~(SECRET)~~

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